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RESEARCH GROUP
DISTRIBUTED SYSTEMS,
SIMULATIONS AND
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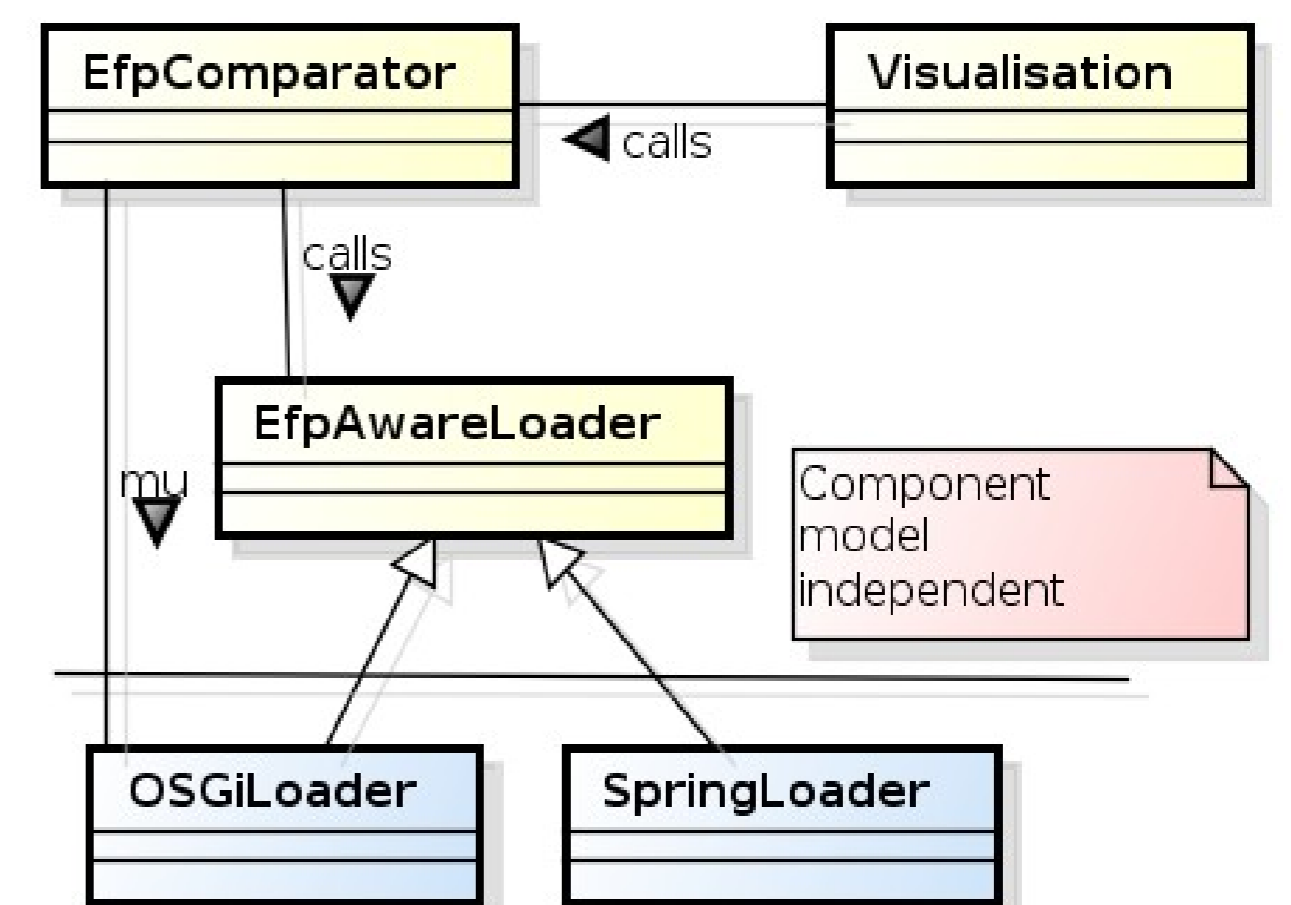
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Static Component Compatibility Visualisation for Various Component Models

Introduction

- Monolithic applications' type compatibility tested by compilation
- But components and libraries compiled independently – compiler's tests skipped
- Late error detection – runtime failures
- Tools to verify compatibility needed



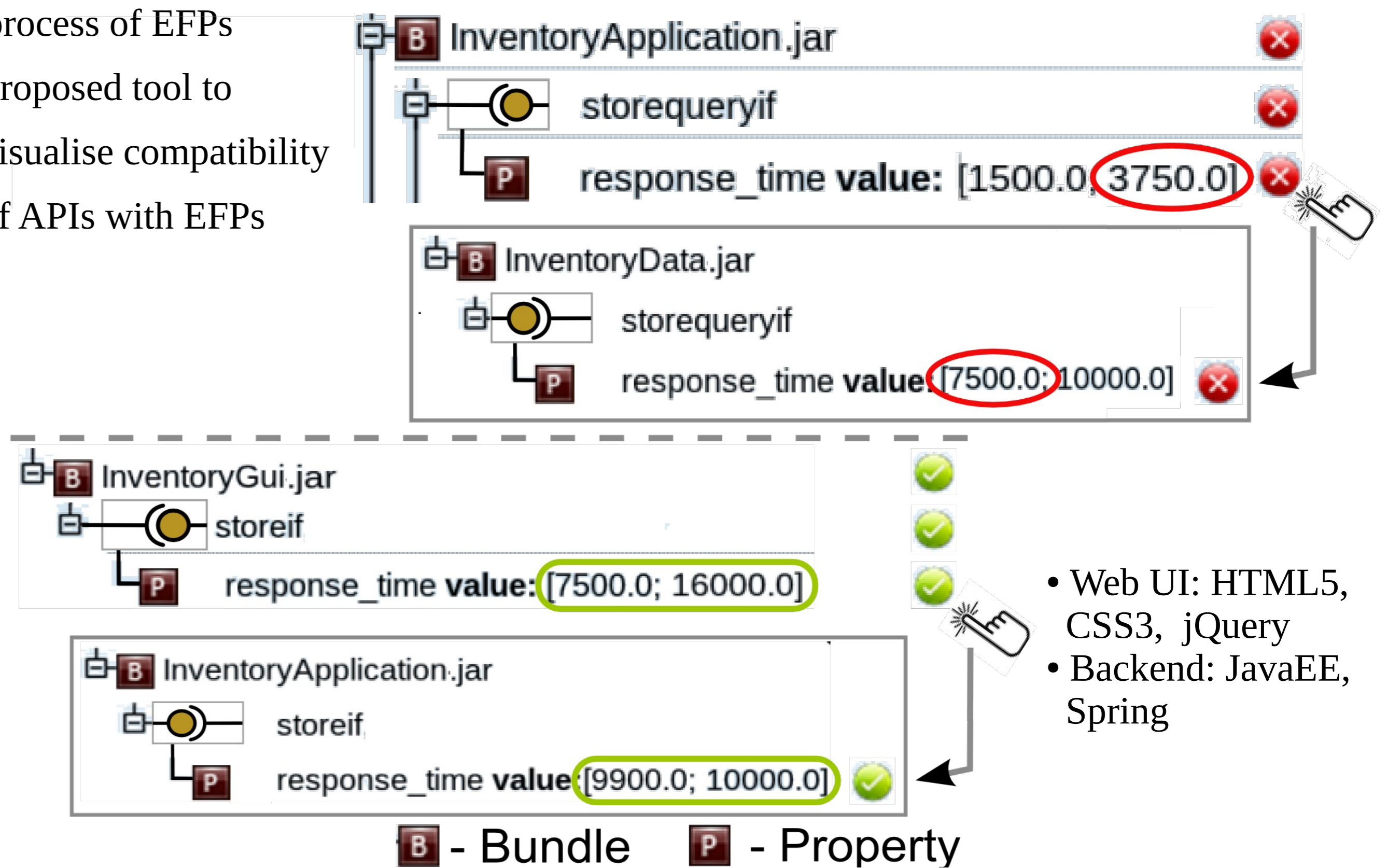
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Extra-functional Properties

- We propose Extra-functional Properties (EFP) to extend API
- Static information about component's API
- Proposed definition and evaluation process of EFPs
- Proposed tool to visualise compatibility of APIs with EFPs

Visualisation Tool

- Web interface, user uploads components and see compatibility
- Tool displays required API elements
- Click opens connected provided API elements
- Incompatibilities highlighted



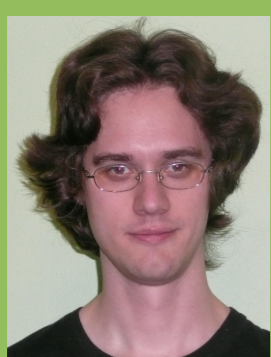
- Web UI: HTML5, CSS3, jQuery
- Backend: JavaEE, Spring

Component Model Independent

- Designed component independent evaluation and visualisation tool
- Suitable for component models with concept of required and provided API counterparts
- Customised to concrete component models by lightweight plugins

Implementation in OSGi

- Created OSGi implementations
- Bound to OSGi via OSGi hooks
- OSGi's resolver hook used to invoke evaluation
- Component's binding loaded from OSGi while results visualised by component model independent part



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